

ABSTRACT

An architecture provides capabilities to transport and process Internet Protocol (IP) packets from Layer 2 through transport protocol layer and may also provide packet inspection through Layer 7. A set of engines may perform pass-through packet classification, policy processing
5 and/or security processing enabling packet streaming through the architecture at nearly the full line rate. A scheduler schedules packets to packet processors for processing. An internal memory or local session database cache stores a session information database for a certain number of active sessions. The session information that is not in the internal memory is stored and retrieved to/from an additional memory. An application running on an initiator or target can
10 in certain instantiations register a region of memory, which is made available to its peer(s) for access directly without substantial host intervention through RDMA data transfer. A security system is also disclosed that enables a new way of implementing security capabilities inside enterprise networks in a distributed manner using a protocol processing hardware with appropriate security features.